INTI Instituto Nacional de Tecnología Industrial

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FOOD CONTACT PLASTICS

SMEs EXPORT

Argentine technology and innovation

INSTITUTIONAL RELATIONS AND COMUNICATIONS OPERATIONAL MANAGEMENT
Institutional Relations Deputy Management

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Food contact PLASTICS

Editorial

In a context where innovation, sustainability, and quality are increasingly decisive factors in competing in the markets, the National Institute of Industrial Technology (INTI) positions itself as a strategic partner of the Argentine plastics industry. Our commitment is clear: to drive the growth of the sector by combining science, technology, and environmental responsibility.

Through the generation and transfer of knowledge, we support companies, public agencies, associations, and entrepreneurs in developing solutions that optimize products and processes, promoting the responsible use of plastics.

This includes the sanitary suitability of plastic products in contact with food, through tests authorized for the field of Testing for Packaging and Raw Materials, within SENASA's National Laboratory Network (RedLab) and accredited by the Argentine Accreditation Agency (OAA). We also evaluate plastics for medical applications, serving as a reference laboratory for ANMAT. In addition, we perform chemical, thermal, and physical-mechanical characterization of materials, as well as analyzing the thermal aging of plastic materials in UV chambers. We also develop microbiological tests.

Furthermore, we assist in the design and formulation on a pilot scale of new materials within the framework of the circular economy, aimed at the recovery of recycled plastics and the incorporation of bioplastics into the production chain.

In terms of certifications and quality standards, we offer a comprehensive approach that covers everything from the formulation of new materials—including bioplastics and recycled materials—to their certification and validation. In recycling, INTI grants: Recycling Industry Certification (INTI–CAIRPLAS), Recycled Plastic Content in Products Certification (INTI–Ecoplas), Zero Pellet Loss Program Certification (INTI-CAIP).

In addition, we perform analytical evaluations of recycled plastics, including ecotoxicity studies, assistance with post-consumer PET decontamination technologies, and verification of compliance with current regulations, allowing their use in packaging intended for contact with food.

We provide support on key issues such as recycling, waste recovery, regulatory compliance, material selection, transformation processes, product performance, failure analysis, import substitution, and technology watch.

Last but not least, we address plasticulture: the study of plastic materials used in agricultural production.

We work closely with chambers, associations, and regulatory authorities, and participate in global initiatives against plastic pollution. We represent Argentina in MERCOSUR and in national and international technical committees.

We develop postgraduate and diploma programs in conjunction with universities, such as the Specialization in Technologies and Environmental Impact of Plastic Materials and the Diploma in Thermoplastic Technology and Processing in conjunction with the National University of San Martín (UNSAM).

In addition, we offer specific technical training for companies, organizations, and entrepreneurs, aimed at strengthening the skills necessary for the development, control, and certification of materials and processes.

INTI contributes to the strengthening of the plastics industry through highly specialized technological services, the promotion of sustainable practices, and the generation of applied knowledge, with the aim of consolidating a more innovative, efficient, and safe national plastics production.

In this edition, we present three cases of SMEs in the plastics sector whose products are used in the food industry.

Gabriela Munizza, BA
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Assistant Manager, Sector Services Operations
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Management National Institute of Industrial Technology

BANDEX SA

Food packaging that drives the Argentine industry

In May 1962, Juan Casella and Alberto Bracali developed a product that did not exist in Argentina at the time: a super-thin sheet of HIPS (High Impact Polystyrene). That first step marked the beginning of a pioneering journey in the local packaging sector.

Shortly thereafter, an everyday need opened up another new opportunity. The owner of a deli, tired of cardboard trays that fell apart and were unhygienic, proposed the possibility of manufacturing a better alternative. From that idea came Line 100, the first plastic tray on the Argentine market.

With the addition of Rafael Leal and Carlos Passerini, the founding group was formed, shaping a company in constant evolution. Since then, Bandex has grown steadily and, decade after decade, consolidated its leadership in food packaging solutions.

Today, with more than 60 years of experience, Bandex S.A. specializes in the manufacture and distribution of containers, sheets, and reels made from a wide variety of materials: PET, PET PCR, PETG, PET/PE, PP, PSAI, BOPS, and PSE.

It has two industrial plants located in the provinces of San Luis and Buenos Aires, from where it supplies the entire national territory and exports to more than 22 countries, with more than 180 products, complying with the highest international standards. Its products are certified by SENASA and INAL, while its processes are endorsed by ISO 9001, 14001, 22000, and 45001 standards through IRAM.

The company was a pioneer in introducing foam trays, eliminating Freon gas before it became a mandatory requirement, and manufacturing multipurpose cases that were born out of necessity and ended up conquering markets on four continents. One of these milestones is the thermoformed container with tamper-evident features, a development so challenging that it culminated in something few SMEs can boast: a globally unique patent.

The plastics sector is experiencing significant growth, with a market that reached USD 624.8 billion in 2023 and is projected to reach USD 645.1 billion by 2030, growing at a compound annual growth rate (CAGR) of 4.2% between 2024 and 2030.

Source: Grand View Research.

Fernando Sottile, Commercial Manager at Bandex, highlights the importance of the support provided by the National Institute of Industrial Technology (INTI) in each of its projects. “Every development is a risky decision. Sometimes we are asked for packaging that we don’t have and that doesn’t even exist. But we design it, find the material, adapt the matrix, and make it happen. INTI has always supported us in this approach. Not only with analyses, regulatory guidelines, and technical studies, but also with something even more valuable: strategic support. They have helped us meet the requirements for exporting to demanding markets such as Germany and Canada. They have always been there for us, and we have always trusted them”.

The relationship with this institute is not just a formality; it is vital. When the domestic market collapsed in 2002, Bandex decided to enter the foreign market. But to enter each country, it had to adapt its products to specific regulations. “Thanks to INTI, we were able to adapt to each destination. They were essential in helping us understand technical, legal, and operational requirements. We never felt alone in the development process”, adds Sottile.

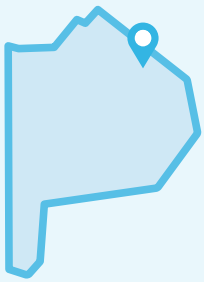
Along the same lines, Evangelina Issetta, R&D coordinator, sums it up this way: “Today, our flagship export products combine sustainable design, post-consumer recycled materials, and exclusive developments. INTI helps us ensure that each innovation meets not only our requirements, but also those of the most rigorous markets”.

From the Institute, Víctor Fernández, head of the Department of Interaction and Chemical Safety at the Plastics Center, explains that Bandex has maintained a sustained relationship with the technological body for years, conducting tests that guarantee the sanitary suitability of its plastic products—laminates, trays, and other items—intended for contact with food, in accordance with current national legislation.

The technical support included validation processes for the domestic market and for international expansion. Given the need to export, exhaustive checks were carried out on the inclusion of formulation components in the Positive Lists required by European legislation and by the US Food and Drug Administration (FDA). Currently, the tests required by the FDA are being carried out to support the export of these products to the US market, ensuring full compliance with applicable regulations.

“We are pioneers in the development of tamper-proof packaging, recyclable single-layer trays, and sealable structures that no one thought possible before. And we continue to focus on that: identifying a need, solving it technically, and producing it with quality”, concludes Sottile, backed by the certainty that comes with experience. Because when the track record is as visible as the quality of the product, words are unnecessary.

Bandex is an Argentine-owned company that has maintained its commitment to innovation, quality, and the domestic industry, weathering challenging times and sustaining growth based on technology, talent, and long-term vision.



BANDEX SA

CABA, Buenos Aires, and San Luis.

- Production capacity: 1,100/1,200 tons/year. Additional 290 tons of extrusion. The plant in San Luis has a capacity of 2,900 tons/year.
-Plant in Sarandí: 14,000 m². Plant in San Luis: 9,800 m².

• HS Code:

- 39239090 / Trays, plastic cases made of PET/PETR/PP/BOPP/PSE.
- 39235000 / Plastic lids made of PET/PETR/PP/BOPP/PSE.
-39231090 / Boxes, drawers, and similar items made of PET/PETR/PP/BOPP/PSE.
-48236900 / Trays, platters, plates, sugarcane bagasse.
- 39203000 / Plates, sheets, and foils - exclusively of polystyrene, with a thickness greater than or equal to 100 microns psai.
-39206291/ Plates, sheets, and foils - polyethylene terephthalate, with a width greater than 12 cm, without surface treatment pet/pet-r/pet-pe.
-39241000 / Single-use plates pet/pet-r/pp/pse 1.

PETROPACK

Packaging as a decision for the future

Petropack was born thanks to the vision of two brothers who saw an opportunity that most people overlooked. In 1986, Alcides and Gabriel Bourdin decided to leave the family grocery store in the city of Paraná to start selling packaging, after noticing that the prices of bags and trays in Buenos Aires were much lower than what they paid locally. That cost difference was the trigger. They bought merchandise, distributed it to stores in their city, and that's how it all began. Shortly thereafter, they took the plunge and bought their first machine to manufacture their own packaging. What began in a small warehouse in Paraná Park is now a production complex that continues to expand: five plants in operation, all in their hometown, 650 employees, and state-of-the-art technology to produce highly complex flexible packaging.

Petropack manufactures reels and bags for primary and secondary packaging in multiple sectors: food, beverages, pet care, hygiene, household, construction, and agribusiness. They accompany each stage of their clients' development, from packaging design to performance on packaging and distribution lines. Its flagship product is pet food packaging, with a dominant presence in Paraguay, where it not only matched the leading local manufacturer but managed to surpass it. There, it set up commercial offices and replicated its working model with enormous success. Today, it continues to expand its markets in the region, with Chile appearing to be the next target for expansion.

This growth was not random. It was a technical, strategic, and deeply cultural decision. From its inception, Petropack understood that quality had to encompass everything: the product, the service, the relationship with customers, constant innovation, and commitment to its environment. This is how they developed solutions such as the Easy Server, a laser-cut container that facilitates the pouring of products such as yerba mate, sugar, or salt. They also created technologies such as microfoaming, which reduces plastic use by 30% by introducing air into the extrusion process. Both developments were recognized and awarded by companies such as Unilever and Procter & Gamble, which chose them as strategic suppliers for their capacity for innovation, technical expertise, and reliability.

However, innovation also requires validation. This is where the National Institute of Industrial Technology (INTI) comes in, an organization with which the company has a cooperative relationship that has already yielded concrete results. **One of the milestones was the comparative life cycle study conducted by INTI on milk sachets manufactured by Petropack, compared to traditional cardboard packaging. The results were categorical: their packaging is lighter, more sustainable, and keeps UHT milk in perfect condition for 90 days without a cold chain. This technical evidence was key to winning markets such as Paraguay and Uruguay, where they are now major exporters of this type of film. The confidence provided by INTI's reports, which are highly valued by the industry, was decisive in opening new doors abroad.**

For many years, the company has maintained a solid collaborative partnership with the institution, sending films and multilaminate materials intended for plastic packaging for use in contact with food, with the purpose of subjecting them to the tests required by the National Service for Agrifood Health and Quality (SENASA).

"These assessments enable us to determine the sanitary suitability of materials and ensure their compliance with current regulations, as well as the safety of the final product. Our work involved conducting global and specific migration analyses, critically analyzing the results, and issuing reports with internationally recognized technical validity. This work, in addition to ensuring compliance with legal requirements, contributed to strengthening the company's export prospects, providing scientific support and documentary traceability", says Víctor Fernández, head of the Department of Interaction and Chemical Safety at INTI's Plastics Center.

For his part, Sebastián Bourdin, the company's commercial director, points out: "INTI not only provides technical knowledge, but also institutional support. It allows us to show our customers, with concrete data, why our solutions are the best in terms of performance, efficiency, and sustainability. That security is non-negotiable".

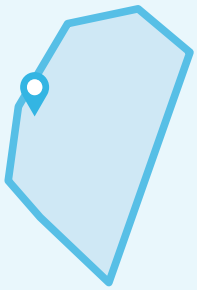
Demand for plastics is being driven by the packaging industry. The market is expected to grow at a CAGR of 4.2% and reach a value of USD 811.85 billion by 2034

Source: Grand View Research.

But there is something else that sets them apart. Petropack has a plant dedicated exclusively to polyethylene recycling and, since 2013, has been promoting the Petropack Foundation, which provides free, certified training in trades for people in vulnerable situations. From extruders to flexographic printers, graduates have the opportunity to enter the job market with the endorsement of the Ministry of Education. Because for this company, growth goes hand in hand with a commitment to sharing.

"Our differential is not only in technology or products. It is in how we understand the business, in the bond with our customers, in our commitment to quality and to the community. Over almost four decades, we have built a brand that is synonymous with service, innovation, and trust. We want to take that way of working further and further", concludes Sebastián Bourdin.

And if the future of packaging lies in the hands of those who dare to anticipate change, few are as clear about this as they are. Because if anything defines Petropack, it is its ability to transform bold decisions into new industry standards.



Petropak

Paraná, Entre Ríos

- Production plant: 45m².
- Annual production capacity: 30,000 tons.

• HS Code:

-3920.10.99.110F / Polyethylene, exclusively, non-metallized, printed.
-3920.10.99.910Z / Polyethylene, exclusively, non-metallized.
-3920.20.19.110R / Biaxially oriented polypropylene, printed.
-3923.21.90.190V / Printed, made of ethylene polymers - sacks and bags.
-3920.69.00.000U / Other polyesters - polycarbonates, resins or other polyesters.
-3923.29.90.000F / Other - plastics - sacks (bags), pouches and other plastic closure devices.

COTNYL

Innovation, commitment, and quality in the plastic packaging market

Cotnyl SA is a company with more than three decades of experience, founded in 1986 by Sergio Nosovitzky and his sons, who decided to enter the plastics industry after a personal experience that led him to reinvent himself. Its name, which comes from the combination of “coating” and “nylon”, marked the beginning of a history characterized by innovation.

It began by manufacturing plastic coatings for the footwear industry, but quickly expanded its offering, excelling in the production of die-cut packaging and plastic folders.

In the 1990s, the company found one of its greatest opportunities when it introduced microwave-safe polypropylene trays, an innovation that enabled its international expansion. Since then, it has been a pioneer in the development of products such as CPET (conventional oven-safe material) and recycled PET-PCR for food contact.

Throughout its history, it has consolidated its presence in markets in Latin America, Europe, and Asia, always at the forefront of the sector’s needs.

Marta Galak, a consultant for the company, highlights Cotnyl’s vision for identifying market opportunities and developing innovative products. “Cotnyl’s history is marked by its ability to see what others did not see. They were the first to develop CPET trays, a completely new material in the region”, explains Marta.

Cotnyl stands out for offering more than 20 product lines and over 400 items, with polypropylene, PET, and CPET trays as its most prominent products. The company has managed to position itself as a leader in the sector, pioneering the production of polypropylene and CPET trays, innovative materials that are now used by the food industry. “We identify market needs for products that do not yet exist and develop them. We are committed to innovation, quality, and customization; it’s in our DNA”, explains Daniel Nosovitzky, the company’s director.

The support of the National Institute of Industrial Technology (INTI) has been essential for Cotnyl to continue its growth. **Víctor Fernández, head of INTI’s Chemical Interaction and Safety Department, emphasizes: “INTI accompanied Cotnyl in the certification of post-consumer PET recycling technology and ensured that the material met all requirements to guarantee its sanitary suitability.” This technical support has been crucial in enabling Cotnyl to offer certified quality products in international markets.**

For Ary Nosovitzky, president of Cotnyl, INTI’s assistance has been fundamental. “INTI’s help not only validated our technology, but also allowed us to establish ourselves as a benchmark in the sector. Without their support, we would not have achieved the quality standards that distinguish us today”, says Ary.

In addition to its international expansion, Cotnyl has been recognized for its commitment to sustainability, being the first Argentine company to produce recycled post-consumer PET for food contact. The recently obtained FSSC 22000 certification endorses its food safety management system, positioning it as a benchmark in the sector.

It has successfully opened markets in countries such as Chile, Uruguay, Peru, Italy, Spain, and New Zealand, consolidating its presence in Latin America,

Polyethylene (PE) dominated the market with a revenue share of over 24.0% in 2023, while the packaging sub-segment accounted for a revenue share of over 36.0% in the same year.

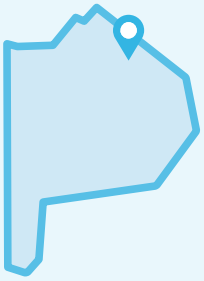
Source: Grand View Research.

Europe, and Asia. With more than 150 wholesale distributors and a constant focus on continuous improvement, the company has managed to maintain its leadership in a competitive sector.

Cotnyl seeks to expand its presence in Brazil, a market with great growth potential, and strengthen its presence in Europe and North America. "Brazil is a significant market for us, and we are prepared to face the challenges. We also want to continue penetrating **Europe and North America**, where, from Argentina, we are the only ones with the capacity to compete on equal terms, backed by the most demanding certifications in the global market." With a clear horizon, Daniel also looks to **Africa**, a continent that is raising high expectations. "Africa is a market with growing demand for delivery packaging, and that is where we can make a difference, offering exclusive solutions that no one else can offer", he adds.

INTI's collaboration and constant investment in technology and development have been fundamental for the company to continue growing and conquering new markets.

With a clear vision and a focus on sustainability, Cotnyl is ready to continue innovating and expanding its global presence because it is proof that, with perseverance, innovation, and strategic support, Argentine SMEs have everything they need to conquer international markets.



Cotnyl SA

San Martín, Buenos Aires City

- Production capacity: 3,600 tons of trays, 7,000 tons of extrusion.
- Production plant: 14,000 m² .

• **HS Code:**

- 3923.90.90.110F / PP trays.
- 3924.90.90.129D / PET and CPET trays.
- 3920.10.10.900 Z / PP, PET, and CPET coils.

International Cooperation

As part of the project Strengthening the Use of Biomass for Synthesis of Bioplastics and Other Compounds, Using Radiation Technology, funded by the IAEA, since 2023 specialists from INTI Plásticos and the CNEA's Department of Radiation Processes have been participating, together with technical teams from 16 countries, in the development of innovative solutions for the plastics industry through the implementation of clean technologies based on radiation.

This initiative seeks to promote the use of agro-industrial by-products in Argentina to obtain high value-added biocomposites. The project promotes knowledge transfer and the development of sustainable technologies with local impact and international reach, strengthening national capacities in the use of renewable sources for the production of bioplastics.

The objective of the project is to implement ionizing radiation technologies (gamma or electron beam) to improve compatibility between by-products derived from yerba mate production and biodegradable polymer matrices—such as thermoplastic starch and polyesters—in order to generate bioplastics with improved mechanical, thermal, and barrier properties. This development is based on INTI's technical capabilities in the design of formulations, processing, and characterization of materials, as well as the use of pilot-scale equipment that allows for the validation and optimization of the systems obtained, facilitating their transition to industrial production.

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